

*Application No. 10/634,103***REMARKS**

The above-identified patent application has been reviewed in light of the Examiner's Action dated December 14, 2004. Claims 1, 2, 6, 19, 24, 29, and 32 have been amended, without intending to abandon or to dedicate to the public any patentable subject matter. Claims 33-44 have been withdrawn. Accordingly, Claims 1-32 are now pending. As set forth more fully below, reconsideration and withdrawal of the objections to and rejections of the claims are respectfully requested.

The Office Action makes the restriction requirement imposed with respect to the claims originally filed with the application final. Accordingly, Claims 33-44 (*i.e.*, the non-elected claims) have been withdrawn.

The Office Action notes that reference no. 47, an article by William S. Heaps et al. entitled "Fabry-Perot Interferometer for Column CO₂," included in the Information Disclosure Statement filed August 1, 2003, does not identify a publication date. Submitted herewith is a Supplemental Information Disclosure Statement presenting a Form PTO-1449 indicating a date of publication of June 2002 for this reference. Consideration of this reference by the Examiner is respectfully requested.

Claims 1-9, 11-18, 22, 24-28 and 31 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent Application Publication No. 2002/0191268 A1 to Seeser et al. ("Seeser"), and Claim 10 stands rejected under 35 U.S.C. §103 as being unpatentable over Seeser. In order for a rejection under 35 U.S.C. §102 to be proper, each and every element as set forth in a claim must be found, either expressly or inherently described, in a single prior art reference. (MPEP §2131.) In order to establish a prima facie case of obviousness under section 103, there must be some suggestion or motivation to modify the reference or to combine the reference teachings, there must be reasonable expectation of success, and the prior art reference or references must teach or suggest all of the claim limitations. (MPEP §2143.) However, as set forth herein, each and every element of the claims cannot be found in the Seeser reference.

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Accordingly, reconsideration and withdrawal of the rejections of the claims are respectfully requested.

The Seeser reference is generally directed to a variable multi-cavity optical device. In particular, the structure discussed by Seeser comprises a multi-cavity filter device, "each layer having an optical thickness of a quarter wavelength." (Seeser, ¶0052.) Seeser further discusses a device in which at least one spacer region includes an active material that changes the optical thickness of the spacer to de-tune the device. (Seeser, Abstract.) The resulting structure can be used as an attenuator or as a switch. (Seeser, ¶0017.) The transmittance of the filter discussed by Seeser therefore allows transmission of a particular wavelength in an on condition and the ability to prevent transmission in an off condition, for example in connection with optical communication systems. (Seeser, ¶0036.) The different conditions can be selected by applying a control signal to change the optical thickness of an active spacer material included in the multi-cavity optical device. (Seeser, ¶0080.)

Claim 1 of the pending application is generally directed to a correlated filter device. The filter comprises a compensation stack including a plurality of layers in which an optical thickness of at least some of the layers does not equal an integer multiple of one-quarter of a wavelength of light having a first wavelength corresponding to a first passband of the filter device. The Seeser reference does not teach, suggest or disclose a filter device as recited by amended Claim 1. For example, Seeser does not describe a filter device in which at least some layers of a compensation stack do not equal an integer multiple of one-quarter of a wavelength of light. Instead, Seeser describes an arrangement in which each layer of the multi-cavity filter structure has an optical thickness of a quarter wavelength. (Seeser, ¶0052.) Accordingly, for at least this reason, each and every element of Claim 1 cannot be found in the Seeser reference, and the rejections of Claim 1 and dependent Claims 2-15 should be reconsidered and withdrawn.

Applicants note that Claim 2 as originally filed should be allowed for at least the additional reason that it recites passbands having center wavelengths that are not regularly spaced. In particular, as noted in the Office Action, the Seeser reference does not describe a filter

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device having passbands that are not regularly spaced. Accordingly, for at least this additional reason, reconsideration and withdrawal of the rejection of Claim 2 are respectfully requested.

Claim 16 is generally directed to a system for sensing atmospheric trace gases. In particular, Claim 16 recites "a first reflective stack forming a first reflection surface of said optical cavity, said first reflective stack including a plurality of thin film layers, wherein at least one of said thin film layers has an optical thickness that is not equal to one-quarter of a wavelength of light at a first passband of said system." The Seeser reference does not discuss a device in which a layer of a reflective stack has an optical thickness that is not equal to one-quarter of the wavelength of light at a first passband of the system. Instead, Seeser discusses a structure in which each layer has an optical thickness of a quarter wavelength. (Seeser, ¶0052.) Accordingly, for at least these reasons, the rejections of Claim 16 and dependent Claims 17, 18 and 22 should be reconsidered and withdrawn.

Claim 24 is generally directed to a system for sensing atmospheric trace gases. The recited system comprises a correlation filter including a plurality of thin film layers, "wherein at least some of said thin film layers have an optical thickness that is not equal to a quarterwave of light having a first wavelength corresponding to a center wavelength of the first passband of said correlation filter." As noted above, the portion of the Seeser reference cited for making such a disclosure in fact discloses that each layer of a reflector stack has an optical thickness of a quarter wavelength. (Seeser, ¶0052.) Accordingly, the rejections of Claim 24 and dependent Claims 25-28 and 31 should be reconsidered and withdrawn.


Applicants note with appreciation the indication in the Office Action that Claims 19-21, 23, 29, 30 and 32 would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. In the amendments set forth above, Claims 19, 29 and 32 have been so amended, such that Claims 19-21, 23, 29, 30 and 32 no longer depend upon a rejected based claim. Accordingly, reconsideration and withdrawal of the objections to Claims 19-21, 23, 29, 30 and 32 are respectfully requested.

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The application now appearing to be in form for allowance, early notification of same is respectfully requested. The Examiner is invited to contact the undersigned by telephone if doing so would expedite the resolution of this case.

Respectfully submitted,

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